

AMENDMENTS TO THE CLAIMS

Claims 1-36 were filed originally.

Claims 19-20 are canceled.

Claim 21 is amended.

No new claims are added.

Accordingly, claims 1-18 and 21-36 remain pending.

1. (Original) A method for coding video data according to layered coding techniques in which the video data is represented as multi-layered frames, each frame having multiple layers ranging from a base layer of low quality to enhancement layers of increasingly higher quality, the method comprising:

forming a base layer for frames in the video data; and

forming multiple enhancement layers for the frames by (1) predicting even frames from even enhancement layers, but not odd enhancement layers, of preceding odd frames and (2) predicting odd frames from odd enhancement layers, but not even enhancement layers, of preceding even frames.

2. (Original) A method as recited in claim 1, further comprising storing the base layer and the enhancement layers in memory.

3. (Original) A method as recited in claim 1, further comprising:
transmitting the base layer over a network; and
transmitting one or more of the enhancement layers over the network according to bandwidth availability on the network.

1 4. **(Original)** A method as recited in claim 1, further comprising
2 recovering the video data from the base layer and any enhancement layer.

3
4 5. **(Original)** A method as recited in claim 4, further comprising
5 reconstructing a missing enhancement layer from an enhancement layer of a
6 reference reconstructed frame.

7
8 6. **(Original)** A computer-readable medium having computer-
9 executable instructions, which when executed on a processor, direct a computer to
10 perform the steps of claim 1.

11
12 7. **(Original)** A method for coding video data according to layered
13 coding techniques in which the video data is represented as multi-layered frames,
14 each frame having multiple layers ranging from a base layer of low quality to
15 enhancement layers of increasingly higher quality, the method comprising:

16 forming a base layer for frames in the video data; and

17 forming at least first, second, and third enhancement layers by (1)
18 predicting even frames from the base layer and the second enhancement layer, but
19 not the first enhancement layer or the third enhancement layer, of preceding odd
20 frames and (2) predicting odd frames from the base layer and the third
21 enhancement layer, but not the second enhancement layer, of preceding even
22 frames.

23
24 8. **(Original)** A method as recited in claim 7, further comprising
25 storing the base layer and the enhancement layers in memory.

1
2 9. (Original) A method as recited in claim 7, further comprising:
3 transmitting the base layer over a network; and
4 transmitting one or more of the enhancement layers over the network
5 according to bandwidth availability on the network.
6

7 10. (Original) A method as recited in claim 7, further comprising
8 recovering the video data from the base layer and any enhancement layer.
9

10 11. (Original) A method as recited in claim 10, further comprising
11 reconstructing a missing enhancement layer from an enhancement layer of a
12 reference reconstructed frame.
13

14 12. (Original) A computer-readable medium having computer-
15 executable instructions, which when executed on a processor, direct a computer to
16 perform the steps of claim 7.
17

18 13. (Original) A method for coding video data, comprising:
19 encoding frames of the video data into a base layer of low quality; and
20 encoding the frames of the video data into multiple enhancement layers of
21 increasingly higher quality such that the enhancement layers of even frames are
22 predicted from even layers, but not odd layers, of preceding odd frames and the
23 enhancement layers of odd frames are predicted from odd layers, but not even
24 layers, of preceding even frames.
25

1 14. (Original) A method as recited in claim 13, further comprising
2 storing the base layer and the enhancement layers in memory.

3
4 15. (Original) A method as recited in claim 13, further comprising:
5 transmitting the base layer over a network; and
6 transmitting one or more of the enhancement layers over the network
7 according to bandwidth availability on the network.

8
9 16. (Original) A method as recited in claim 13, further comprising
10 decoding the base layer and the one or more enhancement layers into the video
11 data.

12
13 17. (Original) A method as recited in claim 16, further comprising
14 reconstructing a missing enhancement layer from an enhancement layer of a
15 reference reconstructed frame.

16
17 18. (Original) A computer-readable medium having computer-
18 executable instructions, which when executed on a processor, direct a computer to
19 perform the steps of claim 13.

20
21 19. (Canceled)

22
23 20. (Canceled).

24
25 21. (Currently Amended) A method as recited in claim 19, comprising:

1 encoding video data into multi-layered frames where each frame has a base
2 layer of low quality to enhancement layers of increasingly higher quality and
3 selected enhancement layers in a current frame are predicted from at least one
4 lower quality layer in a reference frame that is not the base layer, wherein the
5 encoding comprises predicting even frames from even layers of preceding odd
6 frames and predicting odd frames from odd layers of preceding even frames; and
7 transmitting the base layer and one or more of the enhancement layers over
8 a network.

10 22. (Original) A method comprising:

11 encoding video data into multi-layered frames where each frame has a base
12 layer of low quality to enhancement layers of increasingly higher quality, the
13 enhancement layers including at least first, second, and third layers, and the
14 encoding comprises predicting even frames from the base and second layers of
15 preceding odd frames and predicting odd frames from the base and third layers of
16 preceding even frames; and

17 transmitting the base layer and one or more of the enhancement layers over
18 a network.

20 23. (Original) A method as recited in claim 22, further comprising:

21 receiving the base layer and the one or more enhancement layers from the
22 network; and

23 decoding the base layer and the one or more enhancement layers to recover
24 the video data.

1 24. (Original) A method as recited in claim 22, further comprising
2 reconstructing a missing enhancement layer from an enhancement layer of a
3 reference reconstructed frame.

4
5 25. (Original) A computer-readable medium having computer-
6 executable instructions, which when executed on a processor, direct a computer to:
7 construct a base layer for frames in the video data; and
8 construct multiple enhancement layers for the frames in the video data by
9 predicting even frames from even layers, and not odd layers, of preceding odd
10 frames and predicting odd frames from odd layers, and not even layers, of
11 preceding even frames.

12
13 26. (Original) A computer-readable medium as recited in claim 25,
14 further having instructions that direct a computer to store the base layer and the
15 enhancement layers in memory.

16
17 27. (Original) A computer-readable medium as recited in claim 25,
18 further having instructions that direct a computer to:
19 transmit the base layer over a network; and
20 transmit one or more of the enhancement layers over the network according
21 to bandwidth availability on the network.

22
23 28. (Original) A computer-readable medium as recited in claim 25,
24 further having instructions that direct a computer to recover the video data from
25 the base layer and any of the enhancement layers.

1
2 29. (Original) A computer-readable medium as recited in claim 28,
3 further having instructions that direct a computer to reconstruct a missing
4 enhancement layer from an enhancement layer of a reference reconstructed frame.

5
6 30. (Original) A computer-readable medium having computer-
7 executable instructions, which when executed on a processor, direct a computer to:
8 construct a base layer for frames in the video data; and
9 construct multiple enhancement layers for the frames in the video data,
10 where the enhancement layers include at least first, second, and third layers of
11 increasingly higher quality video data than the base layer, by predicting even
12 frames from the base and second layers of preceding odd frames and predicting
13 odd frames from the base and third layers of preceding even frames.

14
15 31. (Original) A computer-readable medium as recited in claim 30,
16 further having instructions that direct a computer to store the base layer and the
17 enhancement layers in memory.

18
19 32. (Original) A computer-readable medium as recited in claim 30,
20 further having instructions that direct a computer to:
21 transmit the base layer over a network; and
22 transmit one or more of the enhancement layers over the network according
23 to bandwidth availability on the network.

24

25

1 33. (Original) A computer-readable medium as recited in claim 30,
2 further having instructions that direct a computer to recover the video data from
3 the base layer and any of the enhancement layers.

4
5 34. (Original) A computer-readable medium as recited in claim 33,
6 further having instructions that direct a computer to reconstruct a missing
7 enhancement layer from an enhancement layer of a reference reconstructed frame.

8
9 35. (Original) A video coding system comprising:
10 a base layer encoder to encode frames of video data into a base layer;
11 an enhancement layer encoder to encode the frames into multiple
12 enhancement layers of higher quality than the base layer; and
13 wherein the enhancement layer encoder predicts even frames from even
14 layers, and not odd layers, of preceding odd frames and predicts odd frames from
15 odd layers, and not even layers, of preceding even frames.

16
17 36. (Original) A video coding system, comprising:
18 a base layer encoder to encode frames of video data into a base layer;
19 an enhancement layer encoder to encode the frames into multiple
20 enhancement layers of higher quality than the base layer, the multiple
21 enhancement layers including at least first, second, and third layers; and
22 wherein the enhancement layer encoder predicts even frames from the base
23 and second layers of preceding odd frames and predicts odd frames from the base
24 and third layers of preceding even frames.